

CLAIMS

What is claimed is:

1. A shield apparatus for use with a power vegetation trimmer for preventing or at least minimizing contact between vegetative matter and  
5 a rotating output shaft of the vegetation trimmer, the shield apparatus comprising:
  - (a) a first lateral wall coaxially disposed about a central axis and comprising a radial dimension relative to the central axis;
  - (b) a first transverse shield wall transversely disposed relative to the  
10 central axis and adjoining the first lateral wall, the first transverse shield wall comprising a first aperture coaxially disposed about the central axis to permit extension of an output shaft therethrough, wherein the first lateral wall and the first transverse shield wall define a first interior and are adapted for at least  
15 partially enclosing at least a portion of a cutting mechanism within the first interior; and
  - (c) a second lateral wall for at least partially enclosing at least a portion of a head member from which the output shaft can extend, the second lateral wall coaxially disposed about the  
20 central axis on an outer side of the first transverse shield wall opposite to the first interior, the second lateral wall comprising a second radial dimension relative to the central axis less than the first radial dimension and defining a second interior of the shield.

2. The shield apparatus according to claim 1 wherein the first transverse shield wall and the first lateral wall cooperatively form a first cup-shaped portion, the first transverse shield wall and the second lateral wall cooperatively form a second cup-shaped portion, and the second cup-shaped portion is inverted relative to the first cup-shaped portion.  
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3. The shield apparatus according to claim 1 comprising a second transverse shield wall transversely disposed in relation to the central axis and adjoining the second lateral wall, the second transverse shield wall attached to the outer side of the first transverse shield wall and having a second aperture coaxially disposed about the central axis in general alignment with the first aperture of the first transverse shield wall.  
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4. The shield apparatus according to claim 3 comprising an adapter member for mounting to the output shaft of a vegetation trimmer for rotation therewith and for mounting the shield apparatus in non-contacting relation to the output shaft, the adapter member comprising a hollow cylindrical portion extending through the first and second apertures, a first annular adapter plate coaxially disposed around the hollow cylindrical portion and disposed in the first interior adjacent to the first transverse shield wall, and a second annular adapter plate coaxially disposed around the hollow cylindrical portion and disposed in the second interior adjacent to the second transverse shield wall.  
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5. The shield apparatus according to claim 1 comprising a hollow sleeve member disposed in the second interior in alignment with the first aperture for attachment to the output shaft of a vegetation trimmer and  
5 for mounting the shield apparatus coaxially about the output shaft.
6. The shield apparatus according to claim 5 wherein the sleeve member contacts the first aperture.
- 10 7. The shield apparatus according to claim 5 wherein the sleeve member extends through the first aperture.
8. The shield apparatus according to claim 1 comprising a coaxial adapter wall coaxially disposed around the sleeve.  
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9. The shield apparatus according to claim 1 comprising an adapter member for mounting to the output shaft of a vegetation trimmer for rotation therewith and for mounting the shield apparatus in non-contacting relation to the output shaft, the adapter member comprising a  
20 hollow cylindrical portion extending through the first aperture, a first annular adapter plate coaxially disposed around the cylindrical portion and disposed in the first interior, and a second annular adapter plate coaxially disposed around the cylindrical portion and disposed in the second interior.

10. The shield apparatus according to claim 9 wherein the first transverse shield wall contacts the adapter member for rotation therewith.
- 5 11. The shield apparatus according to claim 9 wherein the adapter member comprises a coaxial adapter wall coaxially disposed around the cylindrical portion and axially extending from the second annular adapter plate, the coaxial adapter wall adapted for circumscribing an internal portion of the vegetation trimmer and its output shaft.
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12. A trimmer head assembly for use with a power vegetation trimmer, comprising:
- (a) a head member comprising a proximal head section for attachment to a vegetation trimmer, a distal head section, and a
- 15 rotatable output shaft extending outwardly from the distal head section along a longitudinal axis for rotatably driving a cutting element attachable to the output shaft; and
- (b) a shield for preventing or at least minimizing contact between vegetative matter and the output shaft and comprising first and
- 20 second outer walls coaxially disposed about the longitudinal axis, wherein the first outer wall circumscribes at least a portion of the cutting element by a distal annular gap, and the second outer wall circumscribes at least a portion of the distal head section by a proximal annular gap.

13. The trimmer head assembly according to claim 12 wherein the shield comprises a transverse shield wall adjoining the first outer wall and having an aperture, and the output shaft extends through the aperture.
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14. The trimmer head assembly according to claim 13 wherein the shield comprises an adapter member disposed in the first aperture in contact with the output shaft.
- 10 15. The trimmer head assembly according to claim 13 wherein the shield comprises an adapter member mounted to the output shaft and rotatable therewith, the adapter member comprising a hollow cylindrical portion extending through the aperture, a first annular adapter plate coaxially disposed around the cylindrical portion and adjacent to a first
- 15 side of the transverse shield wall, and a second annular adapter plate coaxially disposed around the cylindrical portion and adjacent to an opposing second side of the transverse shield wall.
16. The trimmer head assembly according to claim 12 wherein the shield
- 20 comprises a first transverse shield wall adjoining the first outer wall and having a first aperture, the output shaft extends through the first aperture, and the second outer wall extends from the first transverse shield wall.

17. The trimmer head assembly according to claim 16 wherein the shield comprises a second transverse shield wall attached to the first transverse shield wall and having a second aperture generally aligned with the first aperture, the output shaft extends through the first and second apertures, and the second outer wall adjoins the second transverse shield wall.
18. The trimmer head assembly according to claim 17 wherein the shield comprises an adapter member mounted to the output shaft and rotatable therewith, the adapter member comprising a hollow cylindrical portion extending through the first and second apertures, a first annular adapter plate coaxially disposed around the cylindrical portion and adjacent to the first transverse shield wall, and a second annular adapter plate coaxially disposed around the hollow cylindrical portion and adjacent to the second transverse shield wall.
19. The trimmer head assembly according to claim 12 wherein the distal annular gap ranges from approximately 1 mm to approximately 10 mm.
20. The trimmer head assembly according to claim 12 wherein the distal annular gap ranges from approximately 1 mm to approximately 2 mm.
21. The trimmer head assembly according to claim 20 wherein the proximal annular gap ranges from approximately 1 mm to approximately 2 mm.

22. The trimmer head assembly according to claim 19 wherein the proximal annular gap ranges from approximately 1 mm to approximately 10 mm.
- 5 23. A trimmer assembly for use with a power vegetation trimmer, the trimmer assembly comprising:
- (a) a head member comprising a proximal head section for attachment to a vegetation trimmer, a distal head section, and a rotatable output shaft extending outwardly from the distal head section;
- 10 (b) a cutting element attached to the output shaft and rotatable therewith; and
- (c) a shield disposed around the output shaft between the distal head section and the cutting element, the shield comprising a first lateral surface coaxially disposed about at least a proximal region of the cutting element nearest to the distal head section and defining a distal annular gap between the first lateral surface and the cutting element.
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- 20 24. The trimmer assembly according to claim 23 wherein the cutting element comprises a cartridge for carrying cutting cord.
25. The trimmer assembly according to claim 23 wherein the cutting element comprises an annular rim enclosed by the first lateral surface,

and the annular rim and the first lateral surface define the distal annular gap.

26. The trimmer assembly according to claim 23 wherein the shield contacts  
5 the output shaft.
27. The trimmer assembly according to claim 23 wherein the shield  
comprises a transverse shield wall adjoining the first lateral surface and  
having an aperture, and the output shaft extends through the aperture.  
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28. The trimmer assembly according to claim 27 wherein the shield  
comprises an adapter member disposed in the first aperture in contact  
with the output shaft.
- 15 29. The trimmer assembly according to claim 27 wherein the shield  
comprises an adapter member mounted to the output shaft and  
rotatable therewith, the adapter member comprising a hollow cylindrical  
portion extending through the aperture, a first annular adapter plate  
coaxially disposed around the cylindrical portion and adjacent to a first  
20 side of the transverse shield wall, and a second annular adapter plate  
coaxially disposed around the cylindrical portion and adjacent to an  
opposing second side of the transverse shield wall.



30. The trimmer assembly according to claim 23 wherein the shield comprises a second lateral surface coaxially disposed about at least a portion of the distal head section and defining a proximal annular gap between the second lateral surface and the distal head section.
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31. The trimmer assembly according to claim 30 wherein the proximal annular gap ranges from approximately 1 mm to approximately 10 mm.
32. The trimmer assembly according to claim 30 wherein the proximal annular gap ranges from approximately 1 mm to approximately 2 mm.
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33. The trimmer assembly according to claim 30 wherein the shield comprises a first transverse shield wall adjoining the first lateral surface and having a first aperture, the output shaft extends through the first aperture, and the second lateral surface extends from the first transverse shield wall.
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34. The trimmer assembly according to claim 33 wherein the shield comprises a second transverse shield wall attached to the first transverse shield wall and having a second aperture generally aligned with the first aperture, the output shaft extends through the first and second apertures, and the second lateral surface adjoins the second transverse shield wall.
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35. The trimmer assembly according to claim 34 wherein the shield comprises an adapter member mounted to the output shaft and rotatable therewith, the adapter member comprising a hollow cylindrical portion extending through the first and second apertures, a first annular adapter plate coaxially disposed around the cylindrical portion and adjacent to the first transverse shield wall, and a second annular adapter plate coaxially disposed around the hollow cylindrical portion and adjacent to the second transverse shield wall.
36. The trimmer assembly according to claim 23 wherein the distal annular gap ranges from approximately 1 mm to approximately 10 mm.
37. The trimmer assembly according to claim 23 wherein the distal annular gap ranges from approximately 1 mm to approximately 2 mm.
38. A power vegetation trimmer comprising:
  - (a) an elongate member comprising a distal end;
  - (b) a head member comprising a housing mounted to the distal end and a rotatable output shaft;
  - (c) a motor mounted to the elongate member in communication with the output shaft for transmitting torque thereto;
  - (d) a cutting element attached to the output shaft and rotatable therewith; and

(e) a shield disposed around the output shaft between the head member and the cutting element, the shield comprising a first lateral surface coaxially disposed about at least a proximal region of the cutting element and defining a distal annular gap between the first lateral surface and the cutting element.

39. The trimmer according to claim 38 wherein the cutting element comprises an annular rim enclosed by the first lateral surface, and the annular rim and the first lateral surface define the distal annular gap.

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40. The trimmer according to claim 38 wherein the shield contacts the output shaft.

41. The trimmer according to claim 38 wherein the shield comprises a second lateral surface coaxially disposed about at least a portion of the housing and defining a proximal annular gap between the second lateral surface and the housing.

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